



1999

✓ Investment Performance

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✓ REVIEW

Public Employee Retirement Administration Commission
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By now, you have all seen PERAC's *1999 Annual Report*. As you know, PERAC no longer ranks the retirement systems by their annual investment returns. Nevertheless, an examination of the report reveals an extremely wide divergence in returns among systems for the twelve-month period. Because this variance in returns was more than 30%, it would be instructive to examine the underlying causes.

Since the most appropriate investment objective for any retirement board should be consistent *long-term* performance that meets or exceeds its actuarial rate of return requirement, one should not draw significant conclusions relative to any system's very strong or very weak results compared to other systems in any given year. Nevertheless, the purpose of this memorandum is to respond to the request of a number of systems that have asked us for advice or commentary on what effect certain investment strategies or structures

had in determining performance in 1999.

As in most years, performance in 1999 was driven predominantly by the equity market. As we have pointed out in our *Quarterly Financial Market Reviews* and other investment education presentations, returns in the US stock market—and in most world markets—have been concentrated in a very small number of stocks. Despite misgivings by a number of respected strategists and managers that such stocks were significantly overpriced by most conventional standards, technology-oriented growth stocks once again trounced all "old economy" sectors and value stocks in 1999. This trend continued

into 2000 until a major reversal began in mid-March.

It is a basic investment fact that stocks are more risky than bonds (thus justifying their superior expected returns) but recent trends have also dramatically confirmed that, within that asset class, growth stocks



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are more volatile than value stocks and small caps are riskier than large cap stocks. In 1999, small caps did at least as well as large caps for the first time in several years but the key to understanding performance differentials in 1999 was that the growth stock component of the S&P 500 outperformed the value sector by almost 16%. Furthermore, the comparable return advantage for growth over value was a startling 51% in the Russell MidCap Index and 45% in the Russell 2000 (SmallCap) Index.

Returns in 1999 illustrated the vital importance of asset allocation. However, they also demonstrated that it is not sufficient for fund trustees to only consider allocations among major asset classes (stocks or bonds). As noted, the most important determinant of overall returns in 1999 was allocation among the *subclasses* (in particular, growth vs. value) of the equity market.

Overall allocation to domestic equities among the 88 non-PRIT Massachusetts public systems was just below 50%. Domestic equity allocations ranged from about 34% to 75%, but, significantly, this measure had little correlation with actual equity returns. Four of the systems with the best returns statewide, including the system with the top overall results, had domestic equity allocations below 50% (although, beyond domestic equity, these systems did benefit from allocations and healthy returns from international equity and private equity/venture capital). Four of the ten systems with the lowest overall returns, including the one with the absolute lowest results, actually had above average domestic equity allocations of between 55%-60%.

As noted, the key to understanding returns in 1999 required a further breakdown of overall equity allocations. Those systems with reasonable, or possibly overweight, exposure to the red-hot new-economy growth stocks enjoyed aggregate returns on their equity holdings of

between 20% and 35%. Such systems would have had at least half of their equity assets earmarked for growth. Those systems whose equity assets were entrusted to managers who concentrated on value stocks had equity performance that was considerably lower (in one extreme case, actually negative). With all major stock indices showing returns in excess of 20% in 1999, the price of being overexposed to out-of-favor sectors or styles was very steep.

In analyzing the results of systems that lagged in 1999, it is important to distinguish between two situations. Some systems had managers with an explicit mandate from the board for a value-oriented portfolio while other systems had "core" managers who may have underperformed their benchmarks as a result of *the manager's* discretionary decision to focus on value stocks.

About 70% of the 88 non-PRIT systems had exposure to international stocks. Average allocation was about 11% and ranged up to 20%. Since international stocks generally outperformed US stocks last year for the first time in several years, allocations to this sector generally contributed to favorable returns.

With interest rates rising throughout 1999, total returns from bond portfolios were generally flat to modestly negative in 1999. Among bond sectors, mortgage-backed bonds and high-yield bonds were slightly positive for the year but holdings were generally not large enough to offset the drag from Treasuries or corporate bonds. Given the opportunities in the equity market, bond holdings generally detracted from overall performance. Aggregate holdings of bonds by non-PRIT systems averaged about 27.5% of portfolios. Not surprisingly, the system with the highest allocation (57%) to bonds had poor overall performance while the system with the lowest fixed income allocation (15%) was among the best performing systems.

While attribution of investment returns for pension funds has predominantly focused on equity returns in recent years, one should not lose sight that fixed income returns might well come into greater focus in the coming years and that bonds also have distinct subclasses. Besides allocating assets among US Treasury and agency bonds, corporate bonds, mortgage-backed securities, or high-yield bonds, investors must also be aware of the different performance characteristics of short-term, intermediate maturity, and long-term bonds.

Only 19 of the 88 non-PRIT systems had allocations to alternative investments in 1999, but those that did generally participated in the year's most explosive asset class. Venture capital partnerships focusing on new-economy startups generally enjoyed returns in excess of 100% last year. (These returns included unrealized as well as realized gains.) One Massachusetts system showed a return of almost 500% for its venture capital allocation; this resulted in an extraordinary boost of about 10% to overall performance even though the initial allocation to that sector was only about 2%. Even after 1999's banner year for venture capital returns, composite non-PRIT system assets in this class were less than 2%. Venture capital is, of course, the most risky of all equity segments and, if recent market trends persist, 1999 could prove to be a high-water mark for returns from this asset class.

Real estate, an asset class in which 37% of the 88 non-PRIT systems invest an amount representing about 4% of composite assets, fulfilled its expectation of having low correlation with the equity market. Returns generally ranged from modestly negative, if investments were concentrated in publicly-traded REITs, to moderately positive (the national NCREIF Index was up about 11% for the year) if the primary investment vehicles were partnerships in direct property ownership.

An important point to emphasize is that, while several systems benefited from their exposure to international equity and/or venture capital in 1999, participation in these asset classes was not necessary for a system to achieve strong performance. Three of the top seven performing systems last year were systems of below-average asset size, using no consultant, having only one investment manager, and investing only in US stocks and bonds. However, these systems all had above-average allocations to domestic equity and, most importantly, their investment manager clearly had an outstanding year in stock selection.

The composite investment return of 20.85% shown in the PERAC *Annual Report* reflects in large part the return achieved by the PRIT fund. Various surveys of public pension funds nationwide indicated median or average returns in the 12-15% range. By taking the estimated composite asset allocations for the PERAC systems at the beginning of 1999 (50% domestic equity, 6% international equity, 36% fixed income, 4% real estate, 1% alternative investments, and 3% cash) and using benchmark 1999 returns for the respective asset classes, one may calculate a hypothetical expected return for the year of between 13-14%. Composite asset allocation of the non-PRIT systems is generally similar to those found in public pension systems across the nation.

Charts One and Two (see next page) show the distribution of 1999 investment returns by Massachusetts public retirement systems. As expected, the largest number of system returns was in the range of 10-15%. Both charts indicate an approximate normal distribution around this range, but the effect is most pronounced in Chart Two, which excludes the returns of PRIT and of the 16 systems that invest exclusively with PRIT.

The five best-performing systems had

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CHART #1: DISTRIBUTION OF 1999 INVESTMENT RETURNS (ALL SYSTEMS)

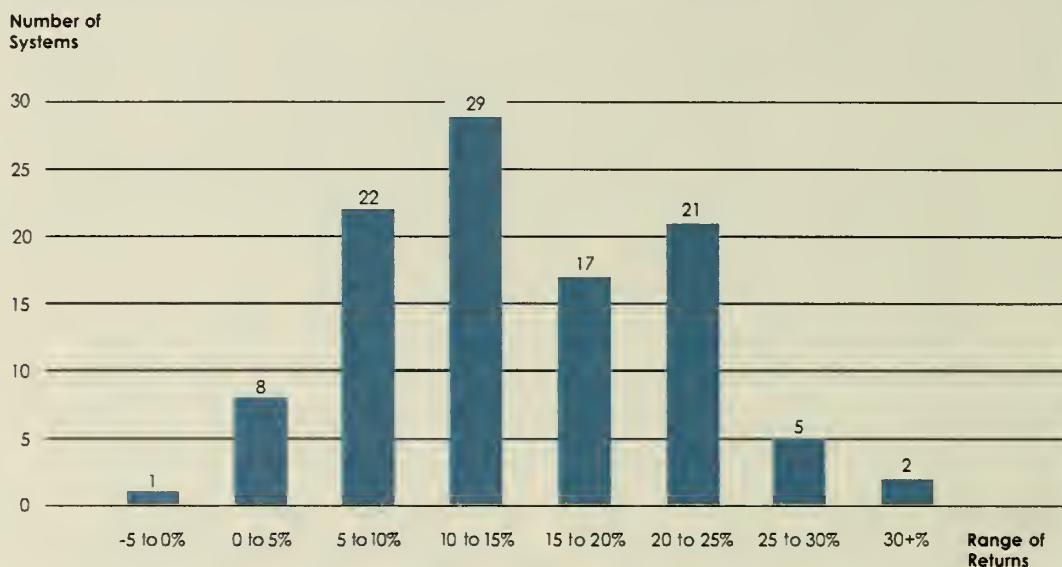
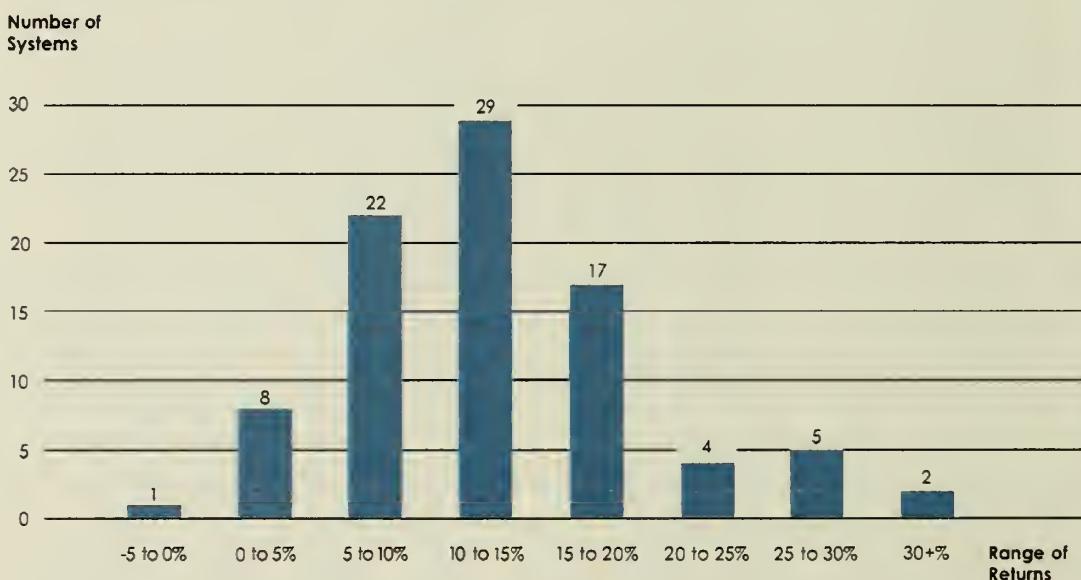


CHART #2: DISTRIBUTION OF 1999 INVESTMENT RETURNS (88 NON-PRIT SYSTEMS)



A system that thought it was minimizing risk by avoiding high-priced growth stocks in 1999 was actually assuming substantial risk.

returns of between 26-31%. These systems had varying percentages of allocations to equity but they enjoyed returns in excess of 30% from their domestic equity portfolios as a result of strong overweight positions in growth stocks. As previously noted, some systems achieved their top-ranking results with only domestic equity exposure but

others clearly benefited not only from international equity returns but also from venture capital. One system enjoyed an above-average return of 20% from its real estate investments while another benefited from a fixed income allocation of less than 20%.

Of the ten systems with the lowest returns, some had below-average allocations

to equities, but all had only one equity manager and, either as a result of board mandate or manager discretion, the equity portfolios were dominated by old economy and value stocks. To make matters worse, the returns of some of these managers badly lagged the benchmark returns even for value stocks.

The market developments and investment results of 1999 dramatically illustrated that asset allocation remains of paramount importance but it must be extended to subclasses (growth, value; large, small cap, etc.) as well as major asset classes. A system, or its manager, who thought it was minimizing risk by avoiding high-priced growth stocks in 1999 was actually assuming substantial risk by discounting the possibility that prices in that sector could rise further because of market psychology and momentum. Furthermore, that system was essentially making a huge bet by significantly underweighting a sector that, despite widely held valuation concerns, represented about 30% of the S&P 500. Given the historically wide differentials in valuation between growth stocks and value stocks that existed at the beginning of 1999, it would not have been imprudent to want to emphasize the sector that seemed far more attractive by conventional standards. After several years of lagging performance, value stocks appeared due for a recovery. However, having a portfolio concentrated in cheap but out-of-favor value stocks proved to be more risky than having at least a market weighting of the expensive but trendy growth sector.

Since we were also reminded that reasonable asset allocation decisions can be negated if investment managers significantly underperform their benchmark, it is vitally important for retirement boards to be aware of what bets, either implicit or explicit, their investment managers are making in their portfolios.

Of course, post-mortems for 1999's lagging systems must also include the observation that many of the world's most sophisticated and successful investors, led by the legendary Warren Buffet, also did not benefit from 1999's bull market because of their decisions to avoid technology growth stocks.

Also, last year's trailing systems can take some solace that the tides may have begun to turn back in their favor. From its peak on March 10, the technology-laden NASDAQ Composite Index had retreated a startling 33% by the end of May. Accordingly, value stocks were outperforming growth stocks in all major market benchmarks, with margins ranging from 3% (large and midcap) to 13% (small cap), as of May 31.

As noted, it may not be appropriate to draw major conclusions from one year's performance results for retirement systems because attaining good long-term performance should be the paramount objective. Analysis of the five-year performance results presented in the *Annual Report* do show some examples of systems which had performance at one of the extremes in 1999 but which trended toward the mid-range over the longer period. However, there are also systems that are at either the low or high end for the five-year as well as the one-year period. This observation is almost certainly attributable, at least in part, to the fact that the phenomenon that was so important in 1999—the dominance of growth stocks over value stocks—had also affected performance in the prior years. Also, a system's investment results over the five years, which comprised one of the greatest periods ever for US equity performance, was clearly related to its overall allocation to equities; a positive correlation was evident between percentage of equity holdings and investment returns.

Having a portfolio concentrated in cheap but out-of-favor value stocks proved to be more risky than having at least a market weighting of the expensive but trendy growth sector.

CHART #3: DISTRIBUTION OF INVESTMENT RETURNS 1995-99 (ALL SYSTEMS)

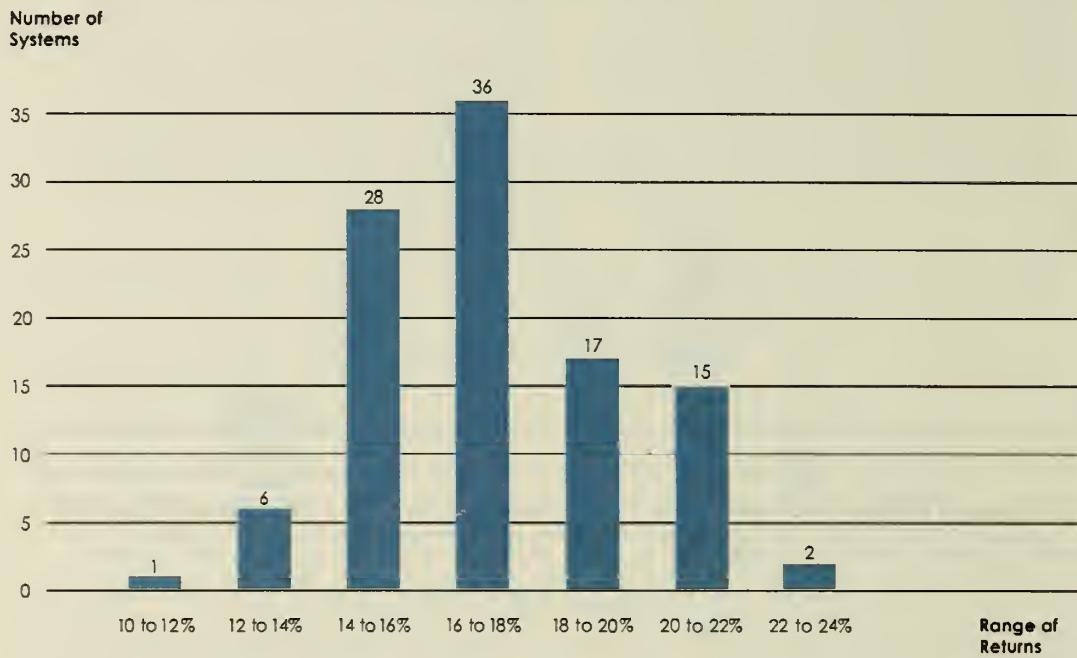
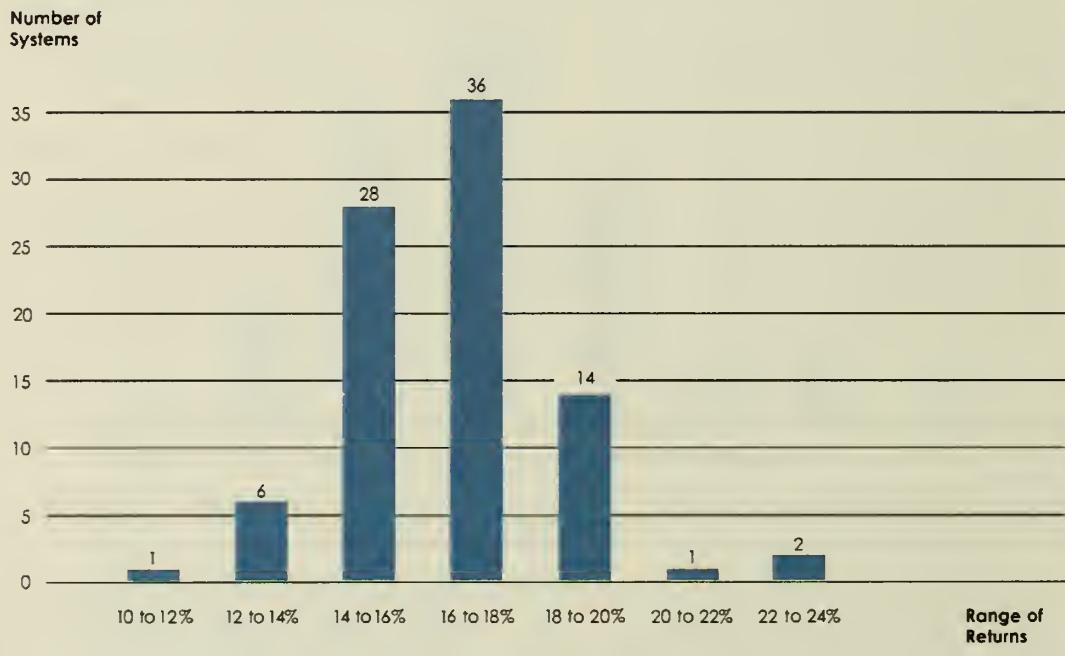


CHART #4: DISTRIBUTION OF INVESTMENT RETURNS 1995-99 (88 NON-PRIT SYSTEMS)



Market developments in 2000 have further confirmed the value of asset allocation and the importance of utilizing asset classes that have low expected correlations with the US equity market.

Charts Three and Four show the distribution of system returns for the 1995-99 period. As expected, the overall dispersion of returns, at 12%, is far

narrower than the 33% range seen for the single year 1999. While the overall system average for the five-year period is reported at 18.52%, this return reflects a skewing

effect attributable to PRIT and the participating PRIT systems, although the effect is much smaller than evident in the one-year analysis. As Charts Three and Four indicate, the most likely return for the period was in the 16-18% range; this range is consistent with expected returns calculated from typical asset allocations and historic benchmark returns.

Market developments in 2000 have further confirmed the value of asset allocation and the importance of utilizing asset classes that have low expected correlations with the US equity market. The fixed income market has remained generally stable during the recent correction in equities. Returns from real estate have demonstrated that asset class's diversifying characteristics; equity real estate investment trusts are up about 10% for the year through the end of May. On the other hand, this year's disappointing performance of most global equity markets gives new fodder to those strategists who have been skeptical of the value of international investing.

There has indeed been a distinct change in market tone and direction so far this year in both US and most world equity markets. This underscores the fact that whether a retirement system was in the top, middle, or bottom ranges of performance in 1999, these results must be considered in the context of long-term performance. And the key to consistent long-term performance is not to stay too long with or be significantly overexposed to the market's hottest sector(s); or conversely, to completely avoid or be significantly underweight that sector(s). History shows that markets, or sectors of markets, often become overvalued or undervalued and they stay that way for considerable lengths of time. Market aberrations such as the recent technology "bubble" present a very difficult dilemma for fund fiduciaries. Since it's impossible to predict when investor psychology and

market momentum will change, it is prudent long-term strategy to have reasonable allocations to all asset classes and subclasses consistent with the results of risk/return analysis and a system's asset/liability study.

A Final Comment

Over the past few months, I have been invited to attend and speak at the monthly meetings of a number of retirement boards. At these meetings, I have discussed our recent report on asset allocation and examined its relevance in light of financial market trends in 1999 and so far in 2000. Our discussions have also included an overview of the performance-related issues covered in the above report. I believe these meetings have been productive and helpful both to me and to the retirement boards and I would welcome the opportunity to schedule additional visits. Agenda for such meetings could include asset allocation, performance issues, or any investment-related topic.

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